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SPECIAL ARTICLES

A PURE MILK SUPPLY FOR THE FARM HOME

R. G. FERGUSON, M.D.

MONTREAL ANTI-TUBERCULOSIS AND GENERAL HEALTH LEAGUE

Report of the Managing-Director

A. GRANT FLEMING, M.C., M.B., D.P.H.

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The Public Health Journal

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TORONTO, APRIL, 1927

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A Pure Milk Supply for the Farm Home

By R. G. FERGUSON, M.D.,

Director of Medical Services, The Saskatchewan Anti-Tuberculosis League.

THE farmer in Canada has under his control to a greater extent than any other person the health of his family. He is, in a sense, apart from acute epidemics of disease, the health officer of his own household. It lies within his power to provide the essential safeguards of health, *viz.*, a sanitary well, sanitary privy, and a healthful food supply. It is recognized today that the most important factor in the food supply of the family is milk and milk products.

Let us now consider the one important disease for which the cow is wholly responsible: bovine tuberculosis.

This disease has been considered for many years from the standpoint of the community, and measures have been devised with a view to reducing the death rate from tuberculosis. I wish now to discuss it, not from the standpoint of reduction of death rate alone, but from the standpoint of making the food supply safe and eliminating the possibility of death from this dread disease in the individual family consuming the milk of their own herd.

Rosenau, Past Director of Hygiene in the United States Public Health Laboratory, in his book "Preventative Medicine and Hygiene" published in 1920, summarizes the results of an investigation, showing the importance of bovine tuberculosis as a cause of death among humans. This report shows that 24% of the cases of tuberculosis affecting organs other than the lungs which had been investigated by a British Commission, a German Commission and the City Health Department of New York, were found to be caused by bovine tuberculosis. No important information has been added since that date in either Canada or the United States, but the findings of the British Medical Research Council, reported by Griffith¹ in 1924, substantially confirm the above.

¹ "A typical Tuberle Bacilli in Human and Animal Tuberculosis with Special Reference to those Occurring in Lupus," by A. Stanley Griffith, M.D., in "Tuberle", Vol. V. No. 12, September, 1924.

In Canada, during the years 1921 to 1924 inclusive, more than 50% of the deaths from tuberculosis among children under fifteen years of age was non-pulmonary, that is, in organs other than the lungs².

As regards the sanitary conditions of the milk consumed by country folk, they are much the same in Canada as they were in the above mentioned countries at the time this investigation was made, that is, practically all the milk consumed is raw. The United States' experience in testing between eight and nine million cattle is that the breed of the animal or the type or sex is not a factor in the tuberculosis incidence. The Health of Animals Branch at Ottawa has found in testing 400,000 cattle up to 1925, that 12.8% reacted positive. In the areas where the research reported by Rosenau was made the cattle were quite highly tubercularized. Although exact figures are not available a reasonable estimate would place the percentage of tuberculosis among the cattle at a much higher rate, probably three or four times as high as that for the average of Canada.

It should be understood, however, that it is not necessary for every cow in the herd to be tuberculous in order to contaminate the milk can. One tuberculous cow may contaminate the milk of a whole herd so that it is hard to estimate the amount of protection derived from a lower tubercularization of cattle. However, I consider it reasonable to assume that since raw milk is being consumed the smaller amount of tuberculosis among the herds would reduce the percentage of bovine tuberculosis among the children of the same age group from 24% to 10%. This will give you some idea of the importance of bovine tuberculosis as a disease among children in Canada, and you will understand that although it is not to be compared in its frequency with human tuberculosis it is a not uncommon cause of death among our children.

The individual case due to bovine origin differs in no way in its seriousness from the individual case of human origin, but when we come to think of prevention there is a tremendous difference.

In human tuberculosis the disease is spread from man to man and perpetuated in man as the necessary host, and can only be eradicated by preventing the disease in man himself. In the case of bovine tuberculosis the disease is spread from cow to man and is perpetuated and spread by the cow; in other words, if diseased cattle were eliminated bovine tuberculosis would die out among men. It is, therefore, absolutely preventable as far as man is concerned by eliminating tuberculous cows.

As shown above its frequency is about one to ten compared with human type in its non-pulmonary forms. Nevertheless, because this

²"Causes of Death by Sex, Age and Nativity in Registration Area and in each Province," Vital Statistics of Canada, Annual Reports of 1921, 1922, 1923 and 1924.

disease is so serious and yet so entirely preventable, the thoughtful parent will realize the necessity of an immediate investigation of food supply.

In order to appreciate the importance of eradication of bovine tuberculosis we must emphasize further the importance of milk as a food.

It is safe to say that at least one half of our children are either wholly or partly bottle fed from infancy. If not at birth, at least after the sixth to ninth month, milk becomes the principal food of the child for the early years of life, after which it is supplemented by other products of the cow, cream, butter, cheese, which, if not pure, contain the germ of tuberculosis in an even more concentrated form.

The way by which the germs gain access to the milk is as follows. The germ enters the milk as a result of tuberculosis of the udder, which occurs in from 1 to 2% of cows suffering from tuberculosis, or, indirectly by contamination with the manure. In the latter case the germs are coughed up from the lungs into the mouth, then swallowed and passed in the faeces, by which milk may become contaminated. In a group of twelve apparently healthy, tuberculous cows five or 41% were found to be passing bacilli at intervals, and in a small group suffering from disease three years and over all were passing bacilli.³

The prevalence of tuberculosis in raw milk is not realised by the unsuspecting consumer. On this continent Rosenau, who summarized the results of the examination of 551 samples of raw milk from four representative American cities, found that the bovine tubercle bacilli were present in 8.3%.⁴ In England, Professor Delepine, in an examination of milk sent in by rail from 272 separate farms, found that 9.5% contained the tubercle bacilli.⁵

Infected cream contains many more bacilli than the milk from which it comes. Butter has been found to be infected in a larger proportion than the milk from which it is derived. Of 21 samples examined in Boston and reported by Rosenau 9.5% contained bacilli.⁶ Swithinbank and Newman tested 498 samples from different sources, and 15.12% contained the tubercle bacilli.⁷ Butter if made from raw tuberculous

³"Milk and its Relation to Public Health, Hygiene Laboratory Bulletin No. 56, published by "The Public Health and Marine Hospital Services, U.S.A. p. 535.

⁴"Preventative Medicine and Hygiene," by Rosenau. p. 573.

⁵"The Journal of State Medical Report," November and December 1914, by Prof. Sheridan Delepine. p. 573.

⁶"Preventative Medicine and Hygiene," by Rosenau. p. 581.

⁷"Bureau of Animal Industry," Cir. No. 153. p. 38.

In addition to the above the following literature has been reviewed. "Relationship Between Bovine and Human Tuberculosis", by R. M. Olin, M.D., Commissioner Michigan Dept. of Health (Journal American Veterinary Association, September, 1921.)

milk is not safe. Investigation in 1909 by the United States Bureau of Animal Industry shows that tubercle bacilli in butter retain their virulence for at least three months, and sometimes as long as 166 days.

You cannot determine whether or not your cow is tuberculous simply by looking at her. She must be tested for tuberculosis. A cow may appear to be healthy for many years after she has become a serious spreader of tuberculous germs. In Canada the frequency of tuberculosis among cattle is relatively small, and the cost of elimination, therefore, slight. The cost of testing would not amount to more than a couple of dollars apiece, and if you are fortunate enough to get into an accredited herd area the testing would be done free of charge.

If your cattle should be tuberculous they would be slaughtered, sold through an abattoir, and disposed of according to the direction of the inspector. The majority would be used for meat. Those that are suffering from generalized disease would have no value and would be destroyed. A review of part and whole carcasses discarded by inspection at abattoirs in Canada shows that about one beast out of ten has to be totally destroyed. If you are in an accredited herd area a reasonable compensation would be received. You will see that this is a very cheap way of securing prevention against this disease.

On the other hand, considering the seriousness of the disease, the risk of not having protection is entirely too great a responsibility for any parent to assume. When a child falls sick the cost of repairing the damage is very great. Experience has shown, where children have developed tuberculosis, an average of one year's sanatorium treatment is required. The average cost of institutional treatment is \$75.00 a month so that for every month a child is sick one first class dairy cow could be replaced. By the time institutional treatment is completed the value of a first class herd of twelve cows has been sacrificed and a great deal of suffering and worry has been endured. In many cases the child, though rescued from a premature death, is crippled for life by bone or joint disease or the health has been so impaired that the child has little choice of occupation or hope of success in life. I wish to emphasize that in a country like Canada,

Final Report of the British Royal Commission appointed to inquire into the relations of human and animal tuberculosis. London, 1911.

Park and Krumwiede, "The Relative Importance of the Bovine and Human Types of Tubercl Bacilli in the Different Forms of Human Tuberculosis."

Journal Medical Research, vol. 23, p. 205.

Journal Medical Research, vol. 25, p. 313 (final summary)

Journal Medical Research, vol. 27, p. 109.

American Journal of Veterinary Science.

American Review of Tuberculosis.

Tubercle.

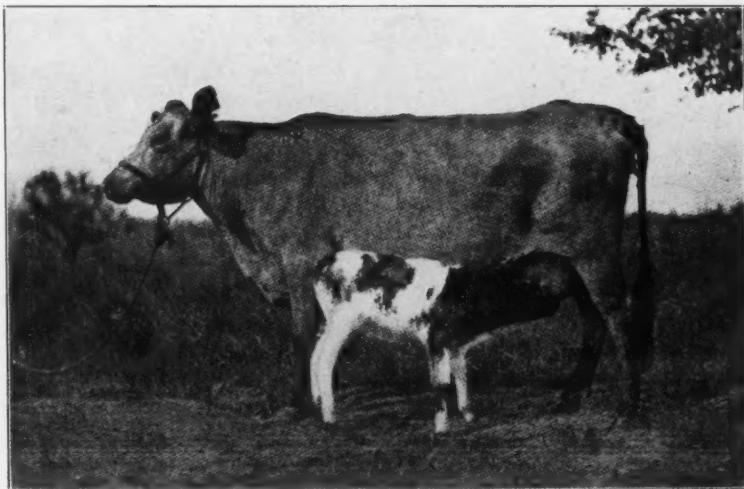
British Journal of Tuberculosis.



Tuberculosis of the skin affecting a child who drank milk from a tubercular cow



Tuberculosis of bones in child of three years fed on milk of cow which died of tuberculosis



The cow shown in this picture is apparently healthy. She does not cough, her appetite is good and her general condition is excellent for a milk cow that has recently calved. At the time her picture was taken it was known that she had been affected with tuberculosis at least $4\frac{1}{2}$ years and that she had been passing tuberculosis germs from her body for a long time. The calf by her side is the fourth she had produced in the last four years. Small quantities of her faeces caused tuberculosis in guinea pigs when it was placed under their skin. The mixed faeces of this cow and of another with tuberculosis caused tuberculosis in hogs that were permitted to eat it.

—Dept. Agriculture, Ottawa.



where the amount of tuberculosis among cattle is relatively low, the cost of the security against this disease is small compared with the cost of treating children who fall victims to it. This safeguard once secured, you are relieved of a great deal of anxiety regarding the possibility of infection of your children through your own neglect.

Having once removed the original offenders from the herd there is the necessity of keeping the herd free from tuberculosis. This is quite possible of accomplishment as shown by the experience of the City of Saskatoon, which is the first city or community in Canada to have a tuberculous-free milk supply.

Testing in that city was completed in 1916. In a recent communication, Dr. Arthur Wilson, Medical Health Officer, stated that in 1921 one herd became contaminated through carelessness, but during the past four years there had not been a single case of a cow in a clean herd becoming tuberculous, and that a careful investigation had shown that the percentage of reactors in the total number tested was represented by new herds which were added in order to supply the needs of a rapidly growing city, and by untested cattle being added to old herds.

If this can be accomplished by a community like the City of Saskatoon, how much more easily could it be accomplished on an individual farm, especially if an accredited herd area was formed!

Since the provision of tuberculous-free milk in Saskatoon the Vital Statistics of the Province show that there has been in that city a marked reduction in the number of deaths from tuberculosis among the children under fifteen years of age.

In conclusion I wish to state, first: That this is the only method which at the same time protects your family and develops a healthy herd; second, that in Canada, considering the low rate of tuberculosis among cattle, the price paid for this protection is small.

I wish also to add a statement by Dr. Wilson of Saskatoon, who, as Health Officer, has assisted in the efforts of that city in eradicating bovine tuberculosis. "I am absolutely convinced from my own experience here that the tuberculin testing of cattle is practical and that the elimination of positive reactors found in dairy herds does prevent infection and deaths among children and also among cattle."

Montreal Anti-Tuberculosis and General Health League

Report of the Managing Director, A. GRANT FLEMING, M.C., M.B., D.P.H.

(Presented at the Annual Meeting, March 15th, 1927)

To conform with our original plan of work and our two previous annual reports, this, our third report, is presented under three main headings—Health Education, Surveys and Demonstrations.

The period covered in the report is the calendar year 1926, excepting when otherwise stated.

The Social Hygiene Committee of the Health League is primarily interested in health education, and we therefore take as our first heading:

1. *Social Hygiene Committee—Health Education*

(a) *Health Articles*—

We have prepared each week, for the local press, an article under the heading of "Health". The press have continued to give space to these articles in a generous manner. As some people are most impressed by what they read, there is a very real place in health education for newspaper articles. By most authorities they are placed first on the list of recommended measures of a health education programme.

Permission was given during the year to republish these articles in Newfoundland.

Special articles are prepared from time to time upon request, or when the opportunity offers.

(b) *Health Literature*—

The first issue of 6,120 copies of our booklet "Health in the Home" (3,020 French and 3,100 English) having been exhausted, a second edition of 4,035 copies was authorized. One copy is left in each home we have under supervision, and the manual is also used as our text-book for group instruction. The Royal Edward Institute requested a supply of 1,300 copies for their patients, and these have been furnished.

(c) *Rock Plates*—

Through the courtesy of the School Commissions, a book-plate of health rules was given to each school child, and, under the supervision of their teachers, was pasted in one of their school books. It is felt that this is a contribution towards health education amongst the children.

It is planned to issue a second book-plate, illustrating one or more of the health rules, and to distribute it in September to the school children of the city. Our thanks are recorded to the School Commissions and their staffs for their assistance.

The idea of the book-plate was favourably commented on, and the plate itself reproduced in the Bulletin of the National Tuberculosis Association and that of the State of New Jersey. From Melbourne, Australia, and Wayne County, Michigan, we have received word of their intention to reproduce the book-plate.

(d) *Group Instruction*—

During the past year 63 persons took the course of Health in the Home. This number is only a fraction of what it should be, and we have been frankly disappointed in the comparatively small numbers availing themselves of the opportunity offered.

(e) *Health Speakers Service*—

Last spring a tentative Health Speakers Service programme was published with the idea of finding out what demand exists for such a service. The lack of response makes it evident that there is no natural demand for health speakers which we cannot reasonably meet with our present staff and the kind assistance of a few associates. It is likely that a demand could be created if we had the necessary funds and staff to organize such a service.

During the past year your managing director delivered 25 formal addresses in the city. We never refuse any request providing reasonable notice is given.

(f) *Health Education in Summer Camps*—

The success of our experiment in 1925 made your directors feel justified in developing this work so during the summer of 1926, we had two public health nurses in summer camps, one at that of the Old Brewery Mission and one at the Star Fresh Air Fund.

These camps were selected as they take both mothers and children. The nurses spent the day teaching and demonstrating to groups and individuals. We are satisfied that during the stay of the mothers and children in camp there is an excellent opportunity to accomplish real health teaching, with the result that they carry back to the city more than the benefits of their outing into the country.

One of the Camp Nurses reported her duties as follows:

1. Management of Milk Station—Preparation of feedings according to formulae, and giving out of bottles of boiled water for breast-fed babies; one cup of milk to all babies over ten months three times a day.
2. Course of twenty-minute lectures to mothers, followed by a fifteen-minute discussion and demonstration. The subjects covered chiefly the care of the baby.

3. Tooth-brush drill with the children carried out twice a day.
4. Inspection of hands of children before each meal.
5. Preparation of health plays and recitations for the camp concerts.
6. Individual pre-natal talks with expectant mothers.
7. Weighing of all babies on arrival and departure.

From this it is evident that summer camps offer a very practical opportunity for effective health teaching. 4,107 mothers and children passed through these camps during the summer. Our thanks are due to the camp authorities and workers who have made this work possible.

(g) During the year 900 reprints of an article by Dr. H. B. Cushing—"Results of the Use of Scarlet Fever Antitoxin"—were purchased and distributed to the medical profession of the city. This was done because of the value of the article dealing as it does with the modern treatment of scarlet fever by scarlet fever antitoxin.

(h) Five hundred extra copies of our second annual report were requested by the Canadian Tuberculosis Association for distribution to their members, thus, through their courtesy, the results of our work were broadcast. The Canadian Public Health Journal also published our report.

In our educational work we have had every assistance from the Canadian Tuberculosis Association, the Canadian Social Hygiene Council, the Canadian Council on Child Welfare, the Welfare Division of the Metropolitan Life Insurance Company, the Federal Department of Health and the Provincial Bureau of Health.

During the present year it is intended to carry on these present educational activities and to add to them. One development is that we expect to publish a quarterly bulletin and to arrange that, through the school children, this bulletin reach a very large proportion of the homes in the city. The value of such bulletins has frequently been demonstrated and, if funds would permit, there is no doubt but that it would be advantageous to issue one each month.

2. Surveys

(a) *Tuberculosis Field Service*—

We have continued to carry on the home supervision of tuberculosis cases and, while doing this work, to study the tuberculosis situation in Montreal.

We give such supervision for cases from Bruchési Institute, Herzl Dispensary, Royal Victoria Hospital Chest Clinic, non-pulmonary cases of the Children's Memorial Hospital and a few cases for private physicians.

The work done is set forth in the following table:

1926

	Under Supervision	Visits to
Families.....	1,357	7,542
Cases.....	1,370	5,222
Contacts.....	6,314	26,477
Other Visits.....		357
Total Visits.....		7,899
Arrangements Completed.....		363
Clinics Attended.....		152

Visits to cases and contacts—Number of cases and contacts dealt with on home visits.

Other Visits—Visits other than home visits in connection with the work.

Arrangements Completed—Patient placed in institution, or some permanent arrangement made.

In addition, arrangements were made by our nurses for 197 contacts to go to summer camps. These summer camps are doing a real service in disease prevention and health promotion which is not generally appreciated. A stay in the country is very often the deciding point in the maintenance of resistance that prevents the development of tuberculosis.

One of the nurses of the League spent the summer at Bruchési Institute's Camp David to provide nursing supervision of the pre-tubercular children being cared for there.

We were carrying, at the end of the year, about 150 more families and about the same number of patients as at the beginning of the year. The fewer patients in the families explained by the number who were sent to sanatorium.

AN ANALYSIS OF DISCHARGED CASES AND FAMILIES

Cases.....	737
Families.....	497

TABLE I
HOME CONDITIONS

Conditions as found at first visit	Yes	No
Cleanliness of Home.....	381	116
Bath.....	340	157
Wash-Basin.....	137	360
Yard.....	334	163
Separate Room.....	260	472
Separate Bed.....	362	370
Light and Ventilation, Pts. Room.....	587	145

TABLE II—CONTACTS

<i>No. of Contacts (by homes)</i>	<i>No. of Contacts (by Cases)</i>
<i>all ages</i>	<i>under 21 years</i>
$0 \times 17 = 0$	$0 \times 163 = 0$
$1 \times 21 = 21$	$1 \times 115 = 115$
$2 \times 60 = 120$	$2 \times 98 = 196$
$3 \times 70 = 210$	$3 \times 97 = 291$
$4 \times 69 = 276$	$4 \times 91 = 364$
$5 \times 63 = 315$	$5 \times 74 = 370$
$6 \times 58 = 348$	$6 \times 51 = 306$
$7 \times 59 = 413$	$7 \times 24 = 168$
$8 \times 36 = 288$	$8 \times 9 = 72$
$9 \times 15 = 135$	$9 \times 5 = 45$
$10 \times 7 = 70$	$10 \times 3 = 30$
$11 \times 6 = 66$	$12 \times 1 = 12$
$12 \times 2 = 24$	
$15 \times 1 = 15$	$13 \times 1 = 13$
Not stated 13	
497 2,301	732 1,982

Number Examined, by Families

$1 \times 58 = 58$
$2 \times 59 = 118$
$3 \times 28 = 84$
$4 \times 20 = 80$
$5 \times 11 = 55$
$6 \times 5 = 30$
$7 \times 2 = 14$

439

Ages of Cases

0- 1 yr.....	7
2- 5 yrs.....	37
6-15 yrs.....	231
16-19 yrs.....	64
20-29 yrs.....	163
30-39 yrs.....	128
40-49 yrs.....	60
50-59 yrs.....	28
60-.....	19

TABLE III Birthplace of Cases

Montreal.....	366
Canada.....	297
England.....	4
Ireland.....	2
Scotland.....	6
United States.....	21
Italy.....	6
Russia.....	7
Poland.....	4
France.....	2
Other.....	22

737

737

Cases Came to Montreal

0-1 yr. ago.....	10
2- 5 yrs. ago.....	97
6- 9 yrs. ago.....	54
10-19 yrs. ago.....	112
20-29 yrs. ago.....	52
30-39 yrs. ago.....	23
40-.....	13

361

Religion of Families

Roman Catholic.....	467
Protestant.....	18
Hebrew.....	9
Other.....	3

497

Sex of Cases

Male.....	289
Female.....	448

737*Number of Rooms Number of Bedrooms Number of Dark Rooms*

1× 3= 3	1× 41= 41	0×170= 0
2× 11= 22	2×167= 334	1×216=216
3× 37= 111	3×166= 498	2× 97=194
4×127= 508	4× 86= 344	3× 3= 9
5×108= 540	5× 15= 75	4× 1= 4
6×115= 690	6× 8= 48	5× 1= 5
7× 65= 455	7× 2= 14	Not stated 9
8× 17= 136	8× 1= 8	
9× 3= 27	9× 2= 18	
10× 1= 10	Not stated 9	
11× 1= 11		
Not stated 9		

497 2,513 497 1,380 497 428

Rooms..... 5.06 per family and 0.82 per person

Bedrooms..... 2.7 per family and 0.49 per person

Dark Rooms..... 0.86 per family

TABLE V
Occupation of Cases

Child.....	301
Housewife.....	167
Labourer.....	92

Factory Worker.....	29
Office Worker.....	34
Not Stated.....	31
Others (distributed by ones and twos amongst 32 occupations).....	83

737

TABLE VI

Learned

501—Regular Medical Supervision
274—Care of Sputum
275—Care of Coughs and Sneezes
205—Separate Eating Utensils
295—Keeping Hands Clean
218—Proper Diet
318—Proper Bedroom
269—Rest
402—Ventilation
325—Fresh Air
134—Taking of Temperature
164—Care of Bed Linen

"Learned" means that the patient has put the teaching into regular practice and was not doing so when taken under supervision, so it can be credited to the public health nurse supervising the case.

TABLE VII

DISCHARGES

<i>Reasons for Discharge of Family</i>		<i>Reasons for Discharge of Cases</i>	
Not Tuberculosis.....	73	Sanatorium.....	124
To Care of Family Physician. 13		Not Tuberculosis.....	87
To Care Royal Edward		To Care of Family Physician. 11	
Institute.....	28	To Care Royal Edward	
To Care Bruchési Institute... 215		Institute.....	26
To Care other Centres..... 15		To Care Bruchési Institute.. 278	
Left City.....	43	To Care other Centres.....	35
Moved and Lost.....	78	Left City.....	44
Not Required.....	31	Moved and Lost.....	54
Refused.....	1	Not Required.....	2
		Refused.....	3
		Died.....	73
	497		737

NOTE.—The large number discharged to Bruchési Institute means that these were turned over to the Institute itself for supervision.

TABLE VIII

Apparent Source—Previous Cases or Deaths in the Home

Mother and father.....	6	12
Mother.....	49	49
Father.....	42	42
Sister.....	38	38
Brother.....	34	34
Husband.....	7	7
First husband.....	2	2
Two husbands.....	1	2
Husband and daughter.....	1	2
Daughter.....	3	3
Two aunts, sister and mother.....	1	4
Sister and daughter.....	1	2
Grandmother.....	2	2
Sister and father.....	3	6
Aunt.....	10	10
Mother, 3 brothers, 1 sister.....	1	5
Mother, 3 sisters, 1 brother.....	1	5
Mother and brother.....	5	10
Uncle and aunt.....	2	4
Mother, 1 brother, 1 sister.....	4	12
Mother, 1 sister.....	5	10
Father and 3 children.....	3	12
3 sisters and 1 brother.....	2	8
Father, 2 brothers, 3 sisters, 2 children.....	1	8
3 sisters.....	4	12
1 brother, 2 sisters.....	2	6
Mother and 4 sisters.....	1	5
Mother and 4 children.....	5	25
Mother, 4 brothers 3 sisters.....	2	16
Mother, father, 1 sister.....	2	6
2 sisters.....	5	10
2 brothers, 1 sister.....	1	3
Brother and sister.....	3	6
Husband and daughter.....	1	2
4 sisters, 1 brother.....	1	5
Wife.....	6	6
Mother, 3 sisters, 1 brother.....	1	5
Uncle.....	4	4
3 cases in home.....	3	9
Grandmother.....	3	3

Grandfather.....	2	2
Brother-in-law.....	1	1
First wife, sister, step-brother.....	1	3
First wife, 2 daughters.....	1	3
Father, 3 sisters.....	1	4
Father, 2 sisters.....	1	3
Father, 1 sister.....	1	2
Sister, 2 brothers.....	1	3
4 brothers, 2 sisters.....	1	6
	278	439

Amongst 737 discharged cases there is a history of one or more previous cases, in 278 or 37%, representing a total of 439 previous cases.

DISCUSSION

An examination of these tables, which are an analysis of the work done by the tuberculosis field staff of public health nurses, covering 737 cases and 497 families which were discharged from supervision during the year, shows:

1. At the time of the nurse's visit, approximately 25% of the homes were not clean, 32% had not a bath and 65% had not a wash-basin.
2. That 63% of the cases had not a separate room, 50% had not a separate bed and 19% occupied a room which was not properly lighted and ventilated.
3. 89% of the cases were born in Canada.
4. 94% of the cases were Roman Catholics, 4% Protestants and 2% Hebrews.
5. Average number of rooms per family 5.06, and 0.82 per person, with an average of 0.49 bedrooms per person and 0.86 dark rooms per family.
6. Occupations show a large number of children and housewives. The large number of children is accounted for by the fact that many of these are carried as suspects for some time.
7. 124 cases were sent to sanatorium, 87 were discharged as non-tubercular.
8. That tuberculosis is essentially a home disease is evidenced by the fact that in 37% of all cases (278 out of 737) there had been one or more previous cases (a total of 439 previous cases). In 82 cases the mother had tuberculosis; in 55 the father; in 38 a sister; in 34 a brother; in 12 a husband; in 8 a wife.
9. The ravages of tuberculosis in some families are shown by such histories as mother, 3 brothers and 1 sister; father, two brothers, three

sisters and 2 children; mother, 4 brothers and 3 sisters; 4 brothers and 2 sisters; wife and 2 daughters.

Our opinion, based upon our survey, is that the needs for combating tuberculosis in Montreal at present, in relative order of importance are:

1. Appointment of a bacteriologist by the city to provide for examination of sputum. In this connection a resolution has been forwarded to the city, and many other organizations have publicly and by petition voiced their support of such an appointment.
2. More public health nurses for supervising the homes.
3. More sanatorium beds.
4. Institutional provision for children of all ages.
5. Open-air schools.
6. Preventorium accommodation.

Before proceeding, I desire, at this point, to express appreciation of the institutional work being done by the Laurentian Sanatorium, Mount Sinai Sanatorium, Sacred Heart Hospital and the Grace Dart Home, and of their unfailing willingness to assist in every way. Also to Brehmer Rest Preventorium for their help in taking care of some of the pre-tubercular cases.

During the course of the coming year we expect to have available, from both universities, a supply of B.C.G. vaccine against tuberculosis. This vaccine was developed at the Pasteur Institute, Paris, and, so far, is used exclusively on new-born children. Dr. Baudouin will report on the tuberculosis vaccinations which have already been done in the French Centre. We hope to see a large group done this year. The League's contribution will be to follow these cases over a period of years in order to ascertain what practical protection has been given by the vaccine.

If even a measure of protection is given it will be well worth while, and if results such as have been secured in Paris are repeated, a very long step forward will have been made. It is certainly promising enough to go ahead with, and as there is no danger attached to the use of the vaccine, we are free of any worry.

It would seem as if we had the opportunity of sharing in an investigation of the value of a most promising specific preventive for tuberculosis in infants.

Time alone will tell the amount of protection and the duration of protection that the vaccine confers.

(b) *Housing*

The Housing Committee have reported as follows: After a very thorough study, a draft of suggested housing by-laws was made and submitted to the Provincial authorities. In doing this the committee pointed out that while the existing by-laws were a tremendous step

forward, and the Provincial Government were to be congratulated upon them, it was felt that the time had come when they might be improved so as to secure healthier homes. The main suggestions were to abolish dark and alcove rooms, to provide baths in every home and to recommend a general tightening-up of the regulations.

The Provincial authorities gave these recommendations their consideration and later advised that they did not believe it would be possible to alter their by-laws to the extent suggested, nor was it possible for them to pass by-laws applicable only to the larger cities, as theirs were supposed to be a minimum standard which any community might make more severe.

The Housing Committee believe that a provincial Town Planning Act should be passed which would zone the province and permit the Provincial Bureau of Health to pass by-laws suitable for the different zones created. To have the City of Montreal pass by-laws would be of limited value, as the city could not control adjacent areas which will eventually be part of the city.

In the meantime, the Committee point out that strict enforcement of the existing by-laws by the city would greatly improve conditions, and while much has been done, it is felt that this work should be accelerated.

The Committee are also giving consideration to the possibility of having some model tenements constructed to prove that this can be done on an investment basis. Mr. Harold Lawson kindly drafted some plans for the information of the Committee. This seems to be the only practical hope of altering the present slum areas of the city.

A sub-committee acts on the Zoning Sub-Committee of the Town Planning Committee of the City Improvement League; thus we are kept in touch and are in a position to assist the City Improvement League in their most commendable efforts to bring about town-planning.

(c) *Venereal Diseases Survey*

At the request of the Provincial Director, Division of Venereal Diseases, a study was made in connection with the local clinics, and report, with out observations, was furnished. This report being of a confidential nature no details are furnished here.

3. *Demonstrations—*

(a) *Summer Day Camp, or Open-Air Summer School*

The Demonstration carried on in the summer of 1925 was continued in 1926 in co-operation with the Child Welfare Association and the Protestant Board of School Commissioners.

A joint committee was formed. The medical and nursing service was provided by the Child Welfare Association, the teachers and school

supplies by the School Board, and the Health League paid half the expenses.

It is hoped that after the two years of demonstration the School Board will assume entire responsibility for this valuable and much-needed work.

(b) *English Demonstration Area, Coursol St. Health Centre*

The object of our Health Centres is to demonstrate to Montreal citizens the results of applied public health. Such results are cumulative and, as we stated before beginning the demonstration, a minimum period of five years is required to make such a demonstration.

In our French Centre two demonstrations are being carried on in reality. A very intensive one in St. Catherine Parish and, in Sacred Heart Parish, the demonstration of the value of a centre with a minimum of home visiting. Dr. Baudouin will include these in his report. The English Demonstration Area, Coursol St. Health Centre, is between these, providing health clinic facilities and a moderate amount of home supervision.

The Coursol Street Health Centre got under full way in January, 1926. During the year the following activities have been carried on:

A house-to-house survey of the area.

An *ante-natal clinic* for mothers who are to be confined at home by their family physician. Such cases are accepted only with the approval of the physician. This is, of course, a limited service, but fills in for what is not provided by the Royal Victoria Montreal Maternity Hospital, who conduct a clinic at Iverley Settlement which takes many of the expectant mothers of the district, and the Victorian Order of Nurses, who carry many ante-natal cases in the area.

Infant and pre-school clinics. There are two clinics in the district to which our people go—Iverley Settlement clinic, supervised by the Child Welfare Association, at which our staff assist, and Coursol St. clinic, now being held in the Old Brewery Mission Community Centre, the supervision of which the Child Welfare Association have turned over to us. In other words, the nursing service at the clinics and the home supervision are carried on by the League according to the standards of the Child Welfare Association, to whom we take this opportunity of expressing our appreciation, and to the members of their staff assisting in these clinics in particular for making the area work possible.

Diphtheria Immunization clinic. One of the two centres for the immunization of children of from one to six years inclusive.

Saturday morning clinic. Given this name for lack of a better one. On Saturday mornings we see any mothers with their older children who are not attending the regular pre-school clinic or who are of school age.

The idea is that the teaching of the nurse in the home will be supported by the advice of the physician, and also that a medical examination may be made of the child. We have in mind the plan of some such clinic in the evening for adults.

Supervision is given in the home to the families one or more of whom is attending a clinic, and to as many additional families as the capacity of the staff permits.

Our field staff consists of five nurses: three English-speaking nurses, one French-speaking, and one tuberculosis nurse, bi-lingual. In this way we have adapted the principle of a generalized plan as best we can with the staff available, to the necessities of a dual language problem. We are convinced that by far the best results are obtained from the visits of a nurse of the same mother-tongue as the household she visits. It is not merely a question of understanding a language, but getting the shadings necessary for teaching, and, what is even more, the racial understanding of each other.

Our tuberculosis work in the area is made possible by the Royal Edward Institute turning over all their cases in this district to us for home supervision. The Children's Memorial Hospital also refer all their area cases to us for supervision. To both of these organizations we acknowledge our indebtedness.

For a time the Montreal Mental Hygiene Committee conducted a clinic at the Centre, but it was discontinued as it was decided that, for the present at least, it was better to refer cases to their own office.

The Family Welfare Association have office space for their district in the Centre. In this way we have the advantage of their helpful advice in our social problem cases, even if they do not handle them. This is a step which, in our opinion, is in the right direction, that of districting services as much as possible, with common district office centres for all the agencies—a health and social or community service centre.

As an example of what this means, we made a physical examination of the children of the families which are clients of the Family Welfare Association at our Saturday morning clinic. The report on this indicated the need for health supervision in these homes and we were able to make recommendations as to how such a service could be given; these recommendations will be followed to the advantage of both organizations.

A staff meeting is held every Monday morning to discuss our plans and problems, the Family Welfare Association representative attending.

Our reports show that we had 188 tuberculosis cases under supervision during the year. There occurred 46 tuberculosis deaths in the area. If we estimate 8 cases for each annual death there are approximately 368 cases in the area, which means that even now we have only 50% of the area cases under supervision. This gives an idea of the amount of work there is to be done.

COURSOL STREET HEALTH CENTRE

1926

	<i>Under Supervision</i>	<i>Visits to Clinics</i>	<i>Number</i>	<i>Attendance</i>
Homes.....	781	11,115		
Ante-Natal.....	38	306	20	34
Infants.....	603	4,513	103	3,269
Pre-School.....	195	1,446	24	273
Tuberculosis Cases.....	188	1,305		
Tuberculosis Contacts.....	692			
Survey.....		1,511		
Demonstration.....		124		
Diphtheria Immunization			49	1,328
Saturday morning.....			11	54

In the area 109 infant deaths occurred; of this number 17 were known to us, of which 10 attended clinic. With 603 under supervision this represents an infant death rate of 28, less than one-quarter of the rate for the whole city. It is evident that the problem is to reach those infants who are now dying from lack of ante-natal supervision of the mothers and supervision of the infant after birth.

Next year we will be able to present a more complete study of the health conditions in the area.

(c) *Diphtheria Immunization*

During the year two weekly clinics have been held, one at each health centre.

A report of these clinics will shortly appear in the medical journals. There is no question but that diphtheria can be prevented just as thoroughly as is small-pox in such cities as Montreal where the population is vaccinated.

We would suggest that in a few years it might be made a condition of entrance to school that the child be immunized against diphtheria.

By January 1st, 1927, we had given the first injection only to 177 children, and 773 children had received the two injections which usually are sufficient. After a period of four months the children return for the Schick Test to see if they are immune, when they are given a certificate. By January 1st 121 children had been Schick tested, found immune and given their certificate.

In addition, the League supplied the Child Welfare Association with toxoid to immunize at their health centres, and the Victorian Order of Nurses also were supplied with toxoid to immunize members of their staff. All together the League furnished material for the immunization of over 2,000 children.

Under instruction of the directors we are collecting the material necessary for a health survey or study of the province and city. Such a survey would cover a study of the population, morbidity and mortality, the public health development and organization, followed by conclusions and recommendations.

It is hoped that this survey may be prepared during the course of the year.

In accordance with the general policy, all assistance and co-operation have been extended to other agencies.

The staff, with the approval of the directors, assisted in two out-of-town surveys—that of the Milk Supply of Halifax and of the school children of McMasterville, Quebec.

The staff have a lecture hour every Monday in order that they may keep in touch with public health developments.

Before closing, I desire to thank the Directors for their personal kindness to me, and also the executives of the city health and social organizations for their kindly assistance to myself and to the Health League. I would like especially to refer to the courtesy always extended by the Director of the Montreal Department of Health.

To the staff of the League I desire to express publicly my acknowledgement of their conscientious application to their task and their whole-hearted efforts to make our work a success.

The Antisyphilitic Pharmacopoeia of Fracastorius

By THE HONOURABLE WILLIAM RENWICK RIDDELL, LL.D., D.C.L.,
President, Canadian Social Hygiene Council

(Having left untranslated many of the terms employed by Fracastorius,
I here collect and explain them.)

(Continued from March)

Electuarium: there are several electuaries mentioned by Fracastorius. Electuarium Hamech—the electuary of Hamech, an Arabian physician, composed of Colocynth, Senna, Myrobolans, Agaric, Rhubarb, Scammony, Epithymum, Tamarinds, Cassia, Manna, Juice of Fumitory, Plums and Grapes, Polypodium (Oak), Absinthe, Thyme, Anise, Fennel, Red Roses, Cinnamon, Ginger, Spikenard, Honey, Sugar, &c., &c.

There was also a Confection Hamechi of which Charas gives a formula, p. 265,—it contained Oak Polypodium, Raisins, Cow's-milk, Myrobolans, Citrus, Violet-seeds, Colocynth, Agaric, Senna, Absinth, Thyme, Red Roses, Anise, Fennel, Fumitory, Sugar, Spikenard, Cassia, Tamarinds and Manna.

No wonder it purged equally phlegm and bile and particularly humors, salt and acrid, cured erysipelas, cancers, rodent ulcers, tinea, expelled worms and was useful in venereal diseases and quartan fevers.

Quincy gives a Formula, p. 237, a little different. Electuarium Indium was Charas' Electuarium Caryocostinum, p. 264, made of Costus, Cloves, Ginger, Cumin, Dacridium, Hermodactyl and Honey—this was good for purging bilious and melancholic serosities, removing obstructions, curing gout, &c. Electuarium a Benedicta was Charas' Benedicta laxativa, p. 263, made of Terebinth, Esularoot, Hermodactyl, Dacridium, Red Roses, Cloves, Spikenard, Ginger, Crocus (long), Pepper, Amomum, Cardamon, Apium, Petroselinum, Carroway, Fennel, Asparagus, Ruscus, Saxifrage, Millefoil, Galangal, Mace and Honey. It had much the same properties as the Indian.

Electuarium Theodoricum, invented by Theodore, I have not been able to trace.

Elemi Gumma: A gum from certain balsamiferous trees in the East and West Indies is so called: *Canarium commune*, *Icica Isicariba*, *Proteum icicariba*, *Elaphrium elemiferum*.

Enneaphyllum: Pliny's name for *Consiligo*. q.v.

Endiviae: Our Endive, *Cichorium Endivia*.

Enula: *Enula Campana*, a former name of *Elecampane*. Horse-heal, *Inula Helenium*. (*Enula* is a late form of the Classical *Inula*.) *Dios.* 1, 26. *Helenium*, diuretic, emmenagogue, against inflammations, serpent bites, orthopnoea, and cough. A good stomachic. *Culpepper*, p. 166, for cough, short breath, wheeziness, emmenagogue, diuretic, calculus "in reins, kidneys or bladder", antidote to poisons and serpent bites, stops putrid and pestilential fevers and the plague. "The root chewed fasteneth loose teeth and helpeth to keep them from putrefaction."

Quincy, p. 138, for consumptions, ulcerations, is diaphoretic "after a course of mercury in venereal cases to carry off the dregs, as they term it, of the mercury"—also for cutaneous eruptions and itch.

Epithymum: *Cuscuta epithymum*, a kind of Dodder or parasitic plant growing on Thyme, &c. *Dios.* 4, 159, "is the flower from the harder Thyme . . . is useful for melancholics and the flatulent." The Scholia Nova, 4, 172, make it "dry and hot in the third degree".

Quincy is silent and the New Dispensatory says p. 121 "its virtues remain as yet to be determined".

Erucula feras: Fr. Roquette: English Rocket, *Eurca sativa* (*Brassica eruca*, Linn.) a crucifer: Colewort: our Rocket is *Hesperis matronalis*, garden, white or dames' rocket.

Dios. 2, 133, a very active diuretic.

Erythrini: called by the Venetians, Arbores, a fish apparently the flounder, *Pluronectes Flesus*—the South American Erythrinidae have nothing in common but the name.

Eupatorium: A whole genus of plants of the Compositae family, including *Eupatorium purpureum*, (Joe Pye Weed) and the Thoroughwort, Boneset, (*Eupatorium Perfoliatum*): here the *Eupatorium Cannabinum* (*Origanum aquaticum*), Avicenna's *Eupatorium*, is meant. *Dios.* 4, 33, has it a cicatrative use in biliousness, dysentery and serpent bites. His editors identify it with Agrimony, as does Pliny, *Nat. Hist.*, 25, 6, 29, who says that the only use is of the seeds in wine as a drink in dysentery.

Euphorbium (Euphorbia): a genus of the Spurge family: this is the *Euphoria Cyparissias*, Cypress Spurge, sometimes called *Euphorbium officinarum*: Hoffman and Quincy call it *Tithymalus*

Mauritanicus. Quincy, p. 191: cf. Dunglison Medical Dictionary, *sub voc.*

Dios. 3, 88, useful in liniments and cerates, removing squamae from bones—and some say that those struck by a serpent suffer nothing of inconvenience (molestie nihil) if the wound is cut in to the bone and the juice poured in and then the wound sewed up.

Les., p. 52, the gum gives comfort to stomach and liver, draws out gross humors, is antispasmodic, sternutatory and warms liver and spleen. His editor says that Euphorbium, completely forgotten, was re-introduced into therapeutics in 1897 by Dr. Pénières, Professor in the Faculty of Medicine in Toulouse.

Quincy, p. 191, deprecates certain uses in Medicine but thinks it "of good use in chirurgery in cleansing very foul ulcers and exfoliating of carious bones".

Faec Aceti—dregs of Vinegar.

Ficedulæ—Beccafico (Sylvia Hortensis), the English Blackcap.

Filicula: There are several species of like properties.

"Syphilidis", Lib. ii, v. 197.

". . . polyporum hirtos imitata filicula cirros"—the filicula imitating the shaggy curls of the polypus.

Celsus, 2, 11, in his only mention of it makes it a purgative—his editor identifies it with Aspidium Filix Mas (Edin. Pharm., 1817); by others called Polypodium fontanum, Polypodium Dryopteris, P. Filix Mas, P. aculatum.

Dios. 4, 166, makes it identical with Polypodium—it draws out bile and phlegm; as an ointment, good for cracks between the fingers.

Les., p. 73, "polypodium called felicula in Latin", purges bile and phlegm.

Culpepper's Polypody of the Oak, p. 295, has similar properties; and "applied to the nose it cureth the disease called Polypus . . . and it helpeth those clefts or chops that become between the fingers or toes".

Quincy, p. 139, allows it to cleanse the liver and other viscera.
Foeniculum: Foeniculum vulgare, Fennel.

Above the lowly plants it towers,
The fennel with its yellow flowers,
And in an earlier age than ours,
Was gifted with the magic powers,
Lost vision to restore.
It gave new strength and fearless mood;
And gladiators fierce and rude

Mingled it in their daily food;
And he who battled and subdued,
A wreath of fennel wore.

Longfellow's *The Goblet of Life*.

Celsus, 2, 26, makes it carminative.

Dios. 3, 65, makes it lactific, diuretic, against serpent bites, emmenagogue, a collyrium.

Les., p. 54, lactific, eyewash, good for kidneys and bladder and serpent bites.

Culpepper, p. 174, carminative, diuretic, lithontriptic, lactific, stops hiccough, good against poison of serpents or herbs, opens "obstructions of the liver, spleen and gall".

Quincy, pp. 70, 152, "diuretic and good against the stone in the bladder or kidneys"; carminative, "one of the five opening roots".

Fumo terrae, Fumus terrae, &c.: Fumaria officinalis, Fumitory—sometimes called Capnos, Capnum, &c. Dios. 4, 95—the juice gives clearness to the eyes: chewed, the plant "biliosam urinam trahit".

Les., p. 54, purgative of bile, removes obstructions of liver, heals the spleen, makes the eyes clear.

Culpepper, pp. 182-183, very effective for spleen and liver "clarifying the blood from the saltish, choleric and malignant humors which cause leprosy, scabs, tetter, itch and such like breakings-out of the skin"—it "cureth the yellow jaundice and expelleth it by urine which it procureth in abundance".

Quincy, p. 125, it "is supposed to correct cholic and adjust humours".

Galanga: The root of some of the Alpinia and Kaempferia (*Maranta galanga*), Galingale, Galinal. Dios 1, 4, gives a description of the Cyperus which some call Eryisceptrum and Aspalathum—it is laxative, diuretic, emmenagogue, lithontriptic, cured ulcers in the mouth, &c. His editors say that the French call this plant "galange sauvage"; but, 1, 2, his Acorus is "to-day called Galanga officinalis". See Acorus, *ante*.

Culpepper, p. 194, and Quincy, p. 67, have little to say of it.

Galbanum: Bubon galbanum (Linn.), called also Ferula galbaniflua.

Celsus mentions it a score of times. Dios. 3, 79, has it useful for coughs, emmenagogue, ecbolic, an antidote for poisons, good in epilepsy and tooth ache, dysuria, &c.

Les., p. 56, diuretic, emmenagogue, anti-epileptic, cures tooth-ache where there is a cavity.

Quincy, p. 76, "chiefly used plaster-wise to the navel".

Galeritae—the Crested Lark, *Alauda cristata*. See Pliny: *Nat. Hist.*, 11, 37, 44: 30, 7, 20.

Gallica acetosa—see Acetosa.

Gemmae—Buds.

Gentiana: a whole family—the officinal Gentian is generally called Gentiana lutea or rubra, the Yellow Gentian. Celsus in his only mention of it, 5, 23, 3, makes it one of the 37 ingredients of Mithridate, the “noblest of antidotes”. He uses the root. Dios. 3, 3, has it calorifacient and astringent, good against serpent bites, hepatic and stomachic, ecbolic, eyewash, &c. His editors says tersely “ob multam amoritudinem efficaci ad terendum, tenuandum, purgandum, obstructa liberandum”—and no one can say fairer than that.

Culpepper, p. 187, calls it also felwort and baldmony; it helps digestion, bitings of wild beasts, opens the liver (*i.e.*, is cholagogue), kills worms, helps in ague and yellow jaundice as well as in bots in cattle.

Quincy, pp. 100, 101, makes it a vermifuge, antidote to all kinds of poisons, discutient and aperient.

Gobii—a small European fresh water fish: the Gudgeon *Gobio gobio* or *Gobio fluviatalis*: the whole genus is called *Gobius*. Dios. 1, 28, says an ointment made from it is good for serpent bites.

Guaiacum: from the *Guaiacum officinale* or *Americanum*—*Lignum Vitae*.

The editors of Dios. 1, 111, make it the same as Ebenus and have a long and learned note on it—but this is a clear error.

Gummum or Gummi, when standing alone, is Gum Arabic from the *Acacia (Mimosa) vera Nilotica*. Celsus, 4, 20, 2, makes it an antihysteric: 5, 1; styptic: 5, 3, vulnerary: and has a score of references to its virtues.

Gumma Elemi—see Elemi, *supra*.

Haematis Lapis: an ore of Iron, Fe_2O_3 , Blood Stone, once valued in haemorrhages, uterine obstructions, &c.; as a tonic also.

Celsus, 5, 5, makes it purgative: 5, 7, exedent; 6, 6, 30, an ingredient of a Collyrium, called “Rhinion”; 6, 6, 26, an ingredient in a lotion for the eyes called “Sphaerion”.

Dios. 5, 90, diuretic, antimenorrhagic, ingredient in Collyrium.

Hamec—see Electuarium Hamec, *supra*.

Hammoniacum—see Ammoniacum.

Hedera: Ivy, *Hedera helix* (*Hedera arborea*); tonic and astringent.

Celsus, 2, 33: Dios. 2, 172, against dysentery, purulent ears, emmenagogue, abortifacient, as an ointment kills lice.

Helenium: *Inula Helenium*, *Enula*, q.v.

Helleborus: Veratrum nigrum (*Helleborus niger*), Black Hellebore or Christmas rose—the best grew on the island of Anticyra; much used in mental diseases. The white hellebore, *Veratrum viride*, was less esteemed. Dios. 4, 134, says the Black is called Melampodium—it is purgative, drives out bile and phlegm, useful in epilepsy, melancholy, insanity, articular pains; is emmenagogue, abortifacient, clears the hearing, cures dropsy, &c., &c. Everyone has heard of Horace's gentleman who could not be cured of his insanity "tribus Anticyris", by three Anticyras.

Les., p. 56, tells of a very authentic proverb:

"cujus male sensus habet
Helleboro is indiget".

He speaks of both kinds—the black is useful in insanity and purges melancholy: the white purges the phlegm.

Charas is full of hellebore.

Quincy, pp. 186, 191, thinks it too violent a medicine except as an Errhine.

Heptaphylon: *Tomentilla*, *q.v.*, *post*.

Heraclea: *Panax Heraclea*: see *Opopanax*, *post*.

Heracleon: see *Personacia*, *post*.

Hermodactylum: *Colchicum Illyricum*: *Colchicum Autumnale*—some of the older botanists attributed these roots to the *Iris Tuberosa*, others to the *Cyclamen Persicum*—See *Colchicum*, *ante*.

Hiera: a purgative medicine, generally containing aloes: we still have *Hiera Picra*. The officinal formula of the old London Dispensatory for *Hiera Picra* was: Gummous Extract of Socotrine Aloes, 1 lb., Wild Cinnamon (commonly called Winter's Bark) 3 oz: powder separately and mix: See Quincy, p. (269): This is still the formula. Many of the old physicians had their own *Hiera*, e.g. Archigenes of Apamea (A.D., 48-117) and Rufus Ephesius (probably *temp.* Trajan, A.D. 98-117, though some put him much earlier and even make him a contemporary of Plato), Scribonius Largus (*circ.* A.D. 50) and others. The *Hiera Diacolocynthidos* was long well known.

Quincy, p. (237), gives a formula: Colocynth, Agaric, Germanander, White Horehound and Stoechas, each 10 dr., Opopanax, Sagapenum, Parsley-seed, round Birthwort and White Pepper each 5 dr.; Spikenard, Cinnamon, Myrrh and Saffron, each 4 dr.: rub Gums in mortar, sift the rest, stir into 3 lb. 3 oz. 5 dr. desputated Honey and make into an electuary, *secundum artem*.

Charas gives the same Formula, p. 267: he also gives Galen's *Hiera* of Cinnamon, Mastic, Asarus, Spikenard, Santal, Saffron,

each 6 dr., Soccotrine Aloes, 12 ozs: despumated Honey, 5 lb. 8 oz;
M. Fiat Elect.

Hinuli: Young Mules.

Hoedi or Haedi: Young Goats; Kids; approved as food by Celsus 2, 18; easy to digest, head and feet, 2, 22: its flesh should be put over poisoned wounds, made by serpents.

Hordeum: Barley, Dios. 2, 77, a diuretic, meal with resin and doves' dung for a plaster for pain in the side and prepared in many other ways for many other affections.

Hortulani: Ortolans.

Illyrica—Iris Illyrica—see Iris, *post*.

Intybus: Cichorium Intybus, Common Chicory. See Cichorium, *ante*.

Inula: Inula Helenium, Dios. 2, 125 treats of it. Elecampane, the same as Enula, q.v., *ante*.

Iris: a large genus—the Flags. Fracastorius generally means the Iris Germanica, the common Flower-de-luce, or closely allied species, Iris Florentina and Iris pallida. Orris root comes from I. Florentina. C., 5, 15, and elsewhere. Dios. 1, 1 has both Germanica and Florentina—he also speaks of Illyrica and Macedonica—efficacious against cough, digest crass humors, bile, phlegm, sleep producing, cure serpent bites, fistulas and sinuses, ecbolic, good for head ache and spots on the face.

The editors sum up: "Iris coquit, tenuat, cal(e)facit pituitam crassam & bilem purgat, Humorem ex pulmone crassam expectorat". And that is about what Galen says.

Culpepper, p. 177, Flower-de-luce or yellow Water-Flag, says it "is of a very astringent cooling and drying nature and thereby helpeth all leaks and fluxes whether of blood or humours, as bleeding at the mouth, nose or other parts and immoderate flooding good for weak eyes also foul ulcers in the privy parts of either sex", and cankers on women's breasts.

Quincy, p. 112, a good pectoral especially the Iris Illyrica, a cosmetic, carminative, &c.

Juleb Violatum (properly Julepum Violarum): the Violet Julep.

Quincy, p. (183), gives the formula:—

Violet-Flower-Water 4 lbs., Sugar 1 lb., make into a Julep, *secundum artem*. He says it is "a contrivance of Mesuë" (*i.e.* the younger Mesuë, Jahjah ben Masewah ben Ahmed of Cairo who died 1015) "and continued in all the College Dispensatories".

(To be continued)

Radio Talk

Prepared for the Canadian Social Hygiene Council and delivered at
CKCL Broadcasting Studio, Toronto, April 5th, 1927

A MOTHER'S DUTY TO THE STATE

ADELAIDE M. PLUMPTRE

MY subject this evening is 'The Duty of a Mother to the State' so far as such a subject can be dealt with in a short fifteen minutes.

In the days when 'the State' was in its most primitive form—consisting of a group of families—the duty of a mother must have been happily simple. In the provision of shelter, food, and, (possibly), clothes for her family she fulfilled at once her duty as a mother and as a citizen!

But it is a far cry from those days to these—when the state has become a highly complex mechanism which people are more ready to abuse than to define; and in which the individual family is but a cog in the vast wheel of life. But the mother, even today, must go on fulfilling her primitive duties of child-bearing and child-rearing; and must discover how to adjust herself also to the functions of a citizen and of the guardian of future citizens. If she is not always entirely successful in harmonizing within her own personality the primitive and the up-to-date functions of a mother, let us remember that the task is not easy.

It is particularly hard in the present day because the period of woman's emancipation, (as it is often called) was immediately preceded by a time when women were trained to regard themselves mainly as prospective wives and potential mothers, whose contact with 'the State', except in such matters as contributing to the taxes or incurring legal penalties, was mediated to them through their husbands or male relatives; and the duty of the ordinary mother to the State was amply fulfilled when she brought up healthy children in a happy home. Nor have any changes or developments of the State robbed her of this duty which is also a right—and, more than that, a pride and joy. The most progressive modern State is that which guards most carefully human life in its earliest stages. A drop in the rate of infant mortality is recognized as a rise in national intelligence: and a high maternal death-rate is a blot on the nation's scutcheon. In spite of research and experiment, no 'just-as-good' substitute for a mother, even on the physical plane, has as yet been discovered. A motherless infant, boarded out in an ordinarily sanitary

home, flourishes and thrives; when his cousin, cared for in a most perfectly conducted institution, pines and dies. One of the most noted authorities on infant welfare in the United States attributed the better health of the boarded-out baby mainly to the love of the foster mother: and the most advanced medical opinion is all on the side of the State 'boarding out' its dependent infants and older children, as the best substitute for the normal home. But the State itself now takes a pride—which might almost be termed 'maternal',—in *all* its children. It legislates for their safety in infancy, and protects them from overwork in adolescence. It probes into the life histories of 'those about to marry' in order to secure, as far as possible, that the children may be 'well-born'! By grants to organizations, such as the Social Hygiene Council or the Red Cross, the State extends its care of childhood beyond the range of governmental action; so that education on the sources of disease and disability, as well as of good health and efficiency, may be available to all. By guarding the purity of the supply of water, milk, meat and other foods: by its insistence upon proper sanitation and isolation of communicable diseases; by its constant effort to disseminate the knowledge of good and evil, the State is doing on a large scale for its citizens exactly what the mother does on a smaller scale for her family; and the mother's duty to the State in this phase of its work may be summed up in two words—intelligent co-operation.

But a mother's duty to her children includes the guidance of the mind as well as protection of the body: and, although the State has undertaken the function of education, it has not relieved—or rather, deprived—the mother of the duty of training her own child. Habit-forming, on the physical plane, begins at birth with the regulation of food and rest: and this is 'the thin edge of the wedge' of education. Throughout childhood, under normal conditions, the home continues to play the most important part in habit-formation.

"Why have you not trained the baby to lie in his cot?" asked a doctor of a young mother who was walking the floor with her infant.

"O! doctor, he is only three weeks old", replied the mother.

"Then you are three weeks late in beginning his education" said the doctor.

The educational function of the state, rendered necessary by modern conditions, supplements but does not supplant the equally essential educational function of the home: and the necessity of co-operation with the State broadens, rather than limits, the responsibility of the mother. Teaching your own child is in some ways a simpler matter than 'keeping track' on what the State is teaching—a duty which is essential for intelligent co-operation or critical suggestion. The mother is helped in the performance of this duty by organizations, such as the Home and School

Clubs, which exist to discuss and promote methods of co-operation; or by the many books and magazines dealing with education; and, most of all, by personal contact with teachers, members of school boards and officers of departments of education. The pupils who come from homes where this spirit of co-operation exists are easily recognized by the teachers. They are not distinguished by poverty or wealth; but rather by the point of view of the mother, who is thus, often quite unconsciously, fulfilling her duty to the State.

Even in the sphere of recreation the State now recognizes a certain degree of responsibility. The home in the modern community is often so 'cribb'd, cabin'd and confined' that the spirit of play has little scope for its expression. Play on the street is apt to produce friction with neighbours and unpleasantness with the police, if it does not cost the children life or limb. The games that used to be played in the garden or yard of the home must now be provided for and supervised by a social organization or by the State itself. Hence, the provision of parks and playgrounds by municipalities and the organization of athletics, physical culture, and the supplying of swimming tanks and hockey rinks by Boards of Education. But the action of the State in this regard is at best ineffective without the co-operation of the mother whose encouragement or caution is needed for the well-being of the individual child. Not every mother can inspire her son to swim the Catalina channel but every home can play its part in the encouragement of clean sport, fair play, and physical fitness.

The censorship and regulation of theatres and picture-shows and the banning of certain types of books is another manifestation of the solicitude of the State for the welfare of the children; which is carried a step further by the provision of Children's departments in the public libraries and special films in the 'movies'. But the real censorship of plays and literature is carried on daily in the homes by the mothers who decide the kind of books, plays and conversation with which the children are familiarized in early youth.

A teacher whose personal influence upon his pupils is well known in Toronto, when asked by a parent, 'How do you prevent your boys from going to bad plays?' replied, 'By making them interested in good ones'. If a teacher, who has his pupils under him for a limited number of hours each day can hope to produce such results, what is not possible for the mother?

It is not necessary to follow up all the ways in which the State enters what used to be regarded as the sphere of family life—and the more particular concern of the mother of the family. From one point of view, the State appears like an octopus whose suckers attempt to drag the children away from parental care; and it seems as if one of the chief

duties of the modern mother must be to fight the State for the possession of her child. Have we really arrived at such a deplorable condition? Is the mother, at best, relegated to the position of a passive co-operator in the active functions of the State?

A saying attributed to an autocratic French king gives us a clue to the position of the modern mother. Louis XIV said, 'I am the State', and mothers, in modern communities can translate the autocratic singular into the democratic plural, and say, with perfect truth, 'We are the State'.

We have already spoken of the State as the health adviser, the teacher, playground supervisor and censor of morals. It is, indeed, an entity that takes a thousand differing forms. The legislator, the judge, the postman and the policeman personify some of the varied manifestations of the State, but the most common of all is the citizen himself.

Each fully enfranchised citizen holds in his hands the two levers which control the action of modern society—the power to cast a ballot and the right to form an opinion. The visible machinery of the State—that is, the government—is controlled by the power of the vote: but the invisible power that moves the machinery of government is public opinion.

The duty of the mother to the State is therefore far more than passive acceptance or even co-operation in its action. As a citizen, she holds the twofold power of direction and initiation: and with the power, the responsibility for its use or abuse. In order to cast her vote with intelligence or express a well-founded opinion, she must have made a study of current events and trends of thought, and choose the side on which she will throw her influence. As the State becomes more 'motherly', so the mother must become more 'Stately', if she is to keep her place in the home—holding fast to primitive duties while rising to modern privileges.

Just ten years ago, the provincial franchise was granted to women in Ontario and was quickly followed by the federal franchise; so that the mothers of Ontario may fulfil to the uttermost the responsibilities of motherhood. Not all have availed themselves of this opportunity of discharging their maternal duties through the ballot. Some have even thought that the duties of the citizen and the mother were mutually exclusive; and that the performance of the one implied the neglect of the other.

Happily, there is no such conflict of claims between the State and the family; and the mother can best serve each by serving also the other.

The Sanitary Inspectors' Association of Canada

SANITATION AND THE PUBLIC HEALTH LABORATORY.

By A. J. SLACK, PH.C., M.D., D.P.H.,
Acting Director, Institute of Public Health, London, Ontario.

Read before the Annual Convention at Brantford, Ontario.

IT was only about sixty years ago, following the discovery of Pasteur that fermentation and putrefaction were caused by micro-organisms and Lord Lister's practical application of this knowledge to antisepsis in Surgery, and Koch's discovery of the germs which cause Anthrax and Tuberculosis, that the Germ Theory of disease was born. Up to this time it was thought that disease originated spontaneously from some such source as filth, or overcrowding, because it had been observed that disease more frequently occurred under these conditions. So we can understand, why, at that period Public Health was predominated by Sanitation. In the light of the knowledge then available this was highly proper and undoubtedly accomplished some good but could not control communicable disease for the simple reason that the environment rather than the individual was considered as the source of disease. Many superstitions in regard to disease which then seemed plausible, became so deeply rooted that even with our present day knowledge we still have these traditions and superstitions to combat.

As a result of the wonderful development of the Science of Bacteriology, we now know that the communicable diseases are caused by micro-organisms, each specific to its disease. In many instances the actual germ is known and can readily be identified by standard laboratory procedure. In the majority of instances the germ leaves the body of an infected individual through the discharges of the nose, throat, bowel or bladder and infection spreads by well people coming into contact with these discharges. In some instances the lower animals may carry disease germs to the human but fortunately this is not true in the case of many diseases. Each organism, on leaving the body of an infected individual follows the general route customary to that organism, and that is the same route as the one taken by the uninfected discharges of an uninfected individual. We can therefore predict, with relative certainty, the route covered by infectious material between infected persons and well persons. But besides direct contact with infected persons we have the more indirect

method where infectious material contaminates food, milk or water supplies. The task of tracing infection to its source is the duty of the Epidemiologist but in the control of infections, particularly that spread by indirect methods both the Sanitary Inspector and the Laboratory frequently play a prominent part.

The whole field of Public Health may be divided into two great subdivisions, Hygiene and Sanitation. Both aim to prevent disease and promote health. Hygiene deals with the individual while Sanitation deals with the causes and sources of those diseases which come from the surroundings of the individual, that is, Sanitation deals with the environment. Both divisions have in recent years become highly specialized and the final responsibility in all matters pertaining to the sanitary control of the environment rests with the Sanitary Inspector. He must not only have a broad knowledge of the Municipal, Provincial and Federal Public Health Regulations but must have sufficient knowledge about Public Health in general so that his decisions will be just and his judgment respected in the community.

It is in these latter respects that the Public Health Laboratory becomes a valuable adjunct to the Sanitary Inspector; both have their limitations and each should be familiar with the limitations of the other. Of course, many of the Inspector's decisions must rest upon his own knowledge and good judgment but a decision which can be confirmed by a laboratory report is doubly safe.

The Laboratory is practically indispensable in the control of public and private water supplies. Water is most commonly contaminated with bladder and intestinal discharges, therefore it may be the cause of those diseases in which the organisms normally leave the infected individual in the urine and feces, and the most important water borne diseases are Typhoid Fever, Dysentery and Cholera. Sanitary inspection of water supplies is then logically confined to a search for possible routes by which bladder and intestinal discharges, particularly those of human origin, can reach the supply.

The Laboratory examination of water tells something in regard to both its past history and its present character. The bacteriological analysis usually consists of a count of the total number of bacteria present and a search for Colon bacilli. Colon bacilli are normal inhabitants of the intestinal tract of man and all warm blooded animals, therefore their presence in water indicates fecal pollution but cannot distinguish definitely between pollution of animal and human origin.

A water containing Colon bacilli does not necessarily contain disease germs but does contain intestinal discharges and the test is used because of its simplicity whereas the testing of water for disease germs as a routine procedure is not practical. The presence of many Colon bacilli shows

that some route is open by which intestinal discharges can enter the water and because disease germs may enter by the same route such a water is considered unfit for domestic use. Water which has been contaminated with intestinal discharges contains an increased amount of Nitrogen in the form of Free Ammonia, Albuminoid Ammonia, and Nitrite. Filtering through a sandy and gravelly soil oxidizes this nitrogenous organic matter into the stable form of nitrate. The presence of a large amount of nitrate in a water in the absence of normal deposits of mineral nitrate in the soil, indicates therefore extensive past pollution and incidentally shows the enormous amount of purification which may occur during the filtration of a polluted water through a sandy or gravelly soil. The process is, of course, not so simple as it sounds and the purification is largely biological, due to the presence of nitrifying bacteria in the upper layers of the soil.

Common salt is extensively used by both man and animals but only small amounts are retained in the body and an increased amount of salt usually accompanies a high nitrate content in pollution of animal origin. Laboratory determinations of the amount of salt or nitrate are simple, and require but little time or apparatus yet afford considerable information with regard to the past history of a water. Complete chemical analyses are desirable for public water supplies but are rarely necessary for private water supplies.

In the absence of colon bacilli in 20 cc. amounts a water with a high nitrate content may be used for domestic purposes even though it is really only a highly purified sewage. Possibly during heavy rains, or during periods when excessive amounts of water are used, the water may pass through the soil so rapidly that purification will be incomplete and at such times water of this character may even become dangerous.

We should demand the same sanitary quality in soft drinks that we demand in drinking water. Sanitary inspection will show any obvious defects in the bottle washing or sterilizing system, yet it remains for the laboratory to determine whether the final product is satisfactory for use as a beverage. These products should come up to the standard of good drinking water. If they contain large numbers of bacteria and especially if organisms of intestinal origin are present they should be considered unfit for drinking purposes.

With the great increase during recent years in the use of public bathing pools the question of the sanitation of bathing pools is becoming increasingly important. These pools are largely used by children and particularly when swimming, quantities of the water are swallowed. The only safe standard then for bathing pools is the same as that required for drinking water. This is a difficult standard to maintain and probably is only consistently maintained in those pools where some system of

artificial sterilization is in constant operation. Typhoid fever as well as infections of the nose, throat and middle ear have all been traced to bathing in polluted water.

It has been only rarely that disease has been definitely traced to infected ice although ice has been frequently suspected as a source of infection. Sanitary inspection of the source of *natural* ice supplies or analysis of the water from which ice is frozen are both of comparatively little value because a considerable amount of natural purification occurs during the process of freezing. During natural freezing a large part of the suspended solids, bacteria, and even the solids in solution are extruded into the water below as the ice crystallizes. This natural purification cannot occur in water which is so shallow that all the water is frozen nor can it occur if the ice field is flooded. An added factor of safety is that natural ice is stored several months before use, during which period the unfavourable environment tends to kill off disease germs, if present. Artificial ice undergoes no purification during freezing, has only a brief period of storage and in order to be safe should be made from water of good sanitary quality. The sanitary quality of ice is best determined by a laboratory examination for organisms of intestinal origin and a block of the ice should be forwarded to the laboratory so that specimens might be obtained throughout the depth of the block.

The production of milk and milk products is of great economic importance, rating fourth or fifth amongst all agricultural pursuits. Sanitary control requires both adequate inspection and laboratory examination. The bacterial count for the total number of bacteria present in milk tells more in regard to its sanitary quality than any other single laboratory examination. A high bacterial count indicates dirty cows or stables, careless milking or improper conditions of storage. The sediment test for gross dirt is of much less value than the bacterial count because the producer can remove gross dirt by straining through several layers of cheese-cloth but this process will not remove the bacteria which were introduced with the dirt and it is the presence of bacteria rather than gross dirt which makes milk dangerous. In the laboratory milk can also be tested for excessive numbers of streptococci and pus cells indicating most frequently an inflammatory condition of the udder of individual cows.

Unfortunately there is no simple rapid test for the presence of Tubercle bacilli in milk. Present laboratory procedure requires animal inoculation and amongst other disadvantages necessitates a delay of six weeks before results of the test are available. The best method to ensure the absence of Tubercle bacilli in milk is to require the cattle to be Tuberculin-tested. Milk from Tuberculin tested cattle is free from bovine Tubercle bacilli but may contain any other disease producing

organism if infected during or subsequent to milking; therefore the only safe milk is milk which has been subjected to scientific pasteurization.

But milk which has been handled so carelessly that it contains millions of bacteria per cc. is unfit for human food and particularly unfit for infant feeding even though pasteurized, so the control of pasteurizing plants requires the bacterial examination of the raw milk as received, as well as the finished product. Routine laboratory examination of milk also usually includes tests for common preservatives. The chemical analysis of milk for the percentage of butter fat and total solids is of economic rather than public health interest.

Milk products are subject to the same contaminations as milk and if made from raw milk are just as dangerous as the milk from which they are made.

The laboratory plays an important part in the inspection of all food products. It is only by analysis that we are able to state definitely whether a food has been adulterated or substituted with an inferior product, and the laboratory only can detect illegal preservatives, excessive amounts of deleterious heavy metals and the presence of dangerous micro-organisms or their waste-products.

Industrial hygiene and sanitation are so important that they may well be considered as a specialized branch of Public Health. Proper working conditions, pure air, abundant and properly placed lighting facilities, adequate wash, toilet and rest rooms together with well guarded machinery have been found to speed up production, minimize accidents and restrict labor turn-over to such an extent that in the larger industries they are now considered as definite economic measures. Here the laboratory may be called upon to determine the quality of the air, the amount of industrial dust, the presence of poisonous gases or poisonous metals, or to aid the industrial physician in determining the effect of any hazardous employment upon the health of a group of employees.

With the knowledge that the individual rather than the environment is largely responsible for the spread of communicable disease concurrent or bedside disinfection is now considered more important than terminal disinfection. Terminal disinfection is however of value in certain diseases, for example Tuberculosis, and its one disadvantage is that it may be incomplete and therefore lead to a false sense of security. If you desire to be sure that your fumigations are complete the laboratory can easily prepare string cultures of Colon bacilli which may be suspended in the room previous to fumigation, and subsequently removed with sterile forceps and tested for growth in lactose broth. A few trials will convince even the most skeptical that thorough fumigation requires strict attention to detail.

It is perhaps in respect to the inspection of nuisances that the

laboratory can offer the least aid to the Sanitary Inspector. Many industries are objectionable to the aesthetic sense which are in no way definitely harmful to health. The objectionable odours from garbage reduction plants, fertilizer plants or soap factories are outstanding examples of this group. These and many other essential industries are entitled to protection rather than persecution so long as they operate within the limitations of the Public Health Act.

The best index to the value of a Sanitary Inspector to a Health Department is possibly found in his ability to satisfactorily handle the nuisance complaints which he receives. His efficiency may also be judged by his use of the laboratory facilities which are at his command. As previously stated the Inspector and the laboratory have their limitations, but by intelligent co-operation the value of each to their community is greatly enhanced.

Monthly Jottings of the Sanitary Inspectors' Association of Canada

We are pleased to learn that Dr. M. R. Bow, late Medical Health Officer for Regina, has been appointed Deputy Minister of Health for Alberta. We congratulate Dr. Bow on his appointment and wish him every success in his new sphere. Dr. Bow is one of our Honorary Members.

We have just learned with very much regret, of the death of Mr. A. J. Peckett, Plumbing Inspector, Port Arthur, Ontario. Mr. Peckett was one of our oldest members; he joined the Association in 1913 and was in good standing until the time of his death. The news of Mr. Peckett's death came to us as a great shock as he was just in the prime of life, being only 51 years of age. The members will join with us in an expression of sympathy to Mrs. Peckett and family.

We suppose that our members all over Canada are having their usual crop of Spring troubles,—dirty yards, flooded lots, water in cellars, choked ditches, clean up of yards and lanes, etc. etc.—many and various complaints. Most of these are not very serious, but important to the citizens annoyed by such conditions who insist on prompt action. All this work in addition to the usual inspectoral duties makes us very busy men indeed for a month or two. The great thing is not to get rattled but to deal with events as they occur, using politeness, tact, and occasionally a little sharper action when such is required.

It is perhaps a little early to say much about our coming Convention in Toronto which will probably be held early in September. The Executive are however, beginning to plan for this gathering. Members should make up their minds that they are going to attend the Convention this year.



ONTARIO

The Provincial Department of Health of Ontario

Communicable Diseases Reported for the Province for the Weeks
Ending March 5th, 12th, 19th, 26th, 1927.

COMPARATIVE TABLE

Diseases	1927		1926	
	Cases	Deaths	Cases	Deaths
Cerebro Spinal Meningitis.....	4	—	—	7
Chancroid.....	2	—	—	—
Chicken Pox.....	568	—	640	—
Diphtheria.....	244	16	155	9
Encephalitis.....	—	—	1	1
Gonorrhoea.....	144	—	132	—
Influenza.....	20	24	—	144
German Measles.....	882	—	943	—
Measles.....	1718	—	2661	5
Mumps.....	151	—	415	—
Poliomyelitis.....	—	—	—	—
Pneumonia.....	27	187	—	237
Scarlet Fever.....	815	4	632	12
Septic Sore Throat.....	3	—	2	—
Small Pox.....	47	—	45	1
Syphilis.....	103	—	103	—
Tuberculosis.....	116	69	144	88
Typhoid.....	11	6	33	1
Whooping Cough.....	227	2	310	7

The following Municipalities reported cases of Small Pox:

Huntry 1, Whitney 4, Richmond 3, Streetsville 1, Peterboro 3, Bath 1, Toronto 12, Downey 7, Culross 1, Prescott 2, Bancroft 1, Stratford 2, Ameliasburg 1, Galt 1, South Fredericksburg 1, Weston 2, Ottawa 2, Manvers 1, Cardinal 1.

The Part Played by Infection in the Cost of Accidents

SO far efforts at prevention of industrial accidents have been concentrated on preventing their occurrence by making every industrial process as safe as possible from a mechanical point of view and by teaching safety to the workers. This is obviously an enormous field and one that can never in the nature of things be anything like 100% effective. There is another aspect of prevention which has been too much ignored and that is the prevention of the serious effects of such accidents as do occur. This is a field where the objective is more realizable, and efforts more quickly effective. An astonishing proportion of the cost of accidents—cost in compensation payments, cost in lost time, and cost in terms of human suffering and disability—is caused by something which could be almost completely prevented. That something is the infection of wounds. It is a staggering fact that out of roughly \$6,000,000 paid in compensation of accidents \$1,000,000 (according to record, actually a very much larger sum) goes to pay for infection—for something, that is, which not only ideally *should* not occur but in *actual practice need occur but seldom*. Similarly, as regards lost time, it is a common comment of industrial physicians that a wound if infected causes four or five times as much disability as it would have done if not infected. Finally, in terms of human waste infection accounts each year for something in the neighbourhood of 17 deaths and 60 cases of permanent disability.

Bad as these figures are they by no means show the position at its worst. In many industries infection accounts for a much higher proportion of waste. Thus an investigation of this point made by the Division of Industrial Hygiene of the Provincial Department of Health in thirty logging companies showed that 60 per cent. of the wounds were infected before they reached the doctor; in two plants the doctors practically never saw an uninfected wound.

The point of these figures lies in the fact that they could very speedily be reduced well over 50 per cent. Infection almost always means neglect,—given proper first aid facilities it would very seldom occur. Proof of this is easily to be had in the experience of firms who have faced the problem and realised the possibilities. Thus the medical department of a large grinding wheel company in the States found that out of 2,300 accidents which were severe enough to be reported there were only 8 cases of infection (.34%) and every one of the 8 men concerned had either waited twenty-four hours before going to the medical department or had interfered with his dressing. Similarly out of 21,688 accidents occurring among a number of other companies there were only 169 infections (.77%).

Thus if medical care can reduce infection to something almost negligible there is clearly vast room for improvement in our position. The figures of the Compensation Board for the last four years show that over 9% of the cases compensated were blood poisoning cases. Evidently it is possible to make an enormous reduction by the comparatively simple means of seeing that every accident receives immediate and efficient first aid.

Canadian Red Cross Society

ETERNAL VIGILANCE THE PRICE OF COMMUNITY HEALTH

"We have among us just that amount of communicable disease that we want to have", declared Dr. J. L. Biggar, Chief Commissioner of the Canadian Red Cross Society, in speaking to the Samaritan Club at the Gage Institute in Toronto recently,—"When people are ready to eliminate communicable and, therefore, preventable disease such as diphtheria, scarlet fever, measles, whooping cough, and even tuberculosis itself, these too will disappear with smallpox and typhoid into the limbo of medical curiosities."

Dr. Biggar's remarks were made a short time before the present disastrous epidemic of typhoid fever had attacked the city of Montreal, but he was expressing the views of the medical profession, of health authorities and of the intelligent laity generally, when he classed smallpox and typhoid fever as diseases which to-day ought to be merely "Medical curiosities". The Editor of *Toronto Saturday Night* evidently agrees with this point of view for in the April 2nd issue of that popular journal, the following views on community health are expressed on the front page:—

"Episodes like the Montreal typhoid epidemic are disgraceful in the twentieth century, when the preventability of that once common disease has been established beyond peradventure. But such instances of regional indifference and culpability should not obscure the high standing of Canada, taken as a whole, in the field of preventive medicine. In no field have Canadians shown greater initiative or made more notable contributions to the progress of civilization than in medical research and preventative medicine. Most readers are aware, vaguely or otherwise, of the achievements of world famous healers such as Osler, Murphy, Banting, McCrae, Barker, and others who have placed Canada high in international scientific circles. Some perhaps are not ignorant of the fact that Dr. Hastings, Medical Health Officer of the City of Toronto, is famous throughout Europe and America as the conqueror of typhoid, a victory which involves eternal vigilance based on a system amazingly wide and efficient in its ramifications.

"But generally speaking it is doubtful whether many of us are fully cognizant of the remarkable communal efforts on behalf of public health which have been in progress in many parts of Canada.

"A recognition of this was evident however, in the speech of the Governor General, Lord Willingdon, when he recently officiated at the opening of the Red Cross Preventorium established in connection with the Ottawa Royal Sanatorium. He said in part,—'I am tremendously impressed with the fact that during my term in India, the Governor and Lady Willingdon had to start movements and keep the public up to the mark for such work as you in Canada voluntarily achieve. Without any desire to curry favor with my fellow Canadians, I say sincerely that never before have I seen a people so anxious to do social service by work and money.'

"His Excellency's personal environment at Ottawa has indeed a most creditable record for generosity in hospital benefactions, but presumably he had in mind the evidences of Canadian initiative along similar lines which he had encountered in many sections since coming to this country. The history of the Canadian Red Cross is especially notable in this connection."

Then "Saturday Night" after enumerating and describing as outstanding examples of communal health work the Red Cross Outpost Hospitals, the Seaport Nurseries, and the Junior Red Cross, concludes—"We have cited but a few cardinal examples of the contributions which Canada through her Red Cross Society has made to the promotion of preventive medicine. That Society is to-day organized as a peace time vigilance committee to fight disease and death as it fought them on the battlefield of the great war and the Canadian people should more fully realize what it is accomplishing."

Sixth Canadian Conference on Child Welfare

VANCOUVER-VICTORIA MAY 23RD-27TH, 1927

The Canadian Council on Child Welfare has issued the preliminary programme of the Sixth Canadian Child Welfare Conference, which meets for the first time west of Winnipeg. Conferences in the past have been held at Toronto (twice), Ottawa (twice), Montreal, and Winnipeg.

The Conference takes a different form this year from any previously held. The meetings will extend over five days, the meetings on the first four being held in Vancouver, on the fifth in Victoria. Each day is being given to one particular group of the Child Welfare problems.

The first day, morning and afternoon, will be devoted entirely to Health Sessions under the chairmanship of Dr. H. E. Young, Deputy Minister of Health for British Columbia. Dr. Helen MacMurphy will open the session by a paper on Maternal Mortality in Canada. Dr. E. D. Carder, Vancouver, Dr. M. M. Seymour, Deputy Minister of Health for Saskatchewan, Dr. H. W. Hill, University of British Columbia, Dr. C. Wace, Queen Alexandra Solarium, Victoria, Miss A. Wells, Department of Public Health Nursing, Manitoba and Miss B. Hall, Assistant Superintendent Victorian Order of Nurses for Canada, Ottawa, comprise the imposing list of speakers on the opening day.

Tuesday's sessions are entirely devoted to questions of Education, Recreation and Juvenile Employment. Dr. George Weir, Professor of Education in the University of British Columbia, it is expected will act as chairman for this day. Dr. E. B. Wyman of the University of British Columbia, Mr. A. W. Crawford, Director of Technical Education for Canada, Ottawa, Dr. J. W. Gibson, Principal of the Normal School, Victoria, John Kyle, Director of the B.C. Correspondence Schools, Victoria, and Miss Ruby Simpson, Director of School Hygiene, Saskatchewan, are among the names listed for papers, in this field.

On Wednesday, the Canadian Social Hygiene Council assumes responsibility for a session on "Protection of the Child against Social Disease", which will be dealt with under three headings of Sex Education, Social Disease and Child Life, and Conditions governing the Issuance of Marriage Licenses, by Judge Jamieson, Burnaby, Dr. Murray Thomson of the Canadian Social Hygiene Council Staff, and Judge Helen Gregory MacGill of Vancouver.

The Canadian National Committee for Mental Hygiene takes charge on Wednesday, also, of a session on Mental Hygiene and Child

Welfare. For this session Dr. C. M. Hincks, Toronto, Director of the Canadian Committee, Dr. J. G. MacKay of New Westminster, and Dr. May Beer, Psychologist of the Winnipeg Board of Education, are expected as speakers.

On Thursday and Friday, the sessions are devoted to subjects of Child Care and Protection. Important sessions on Juvenile Courts and Probation announce Judge Henry Shaw, Vancouver, Judge Frank Hamilton of Winnipeg, Frank Sharpe of the Toronto Big Brothers, and Magistrate Emily Murphy of Edmonton as speakers. Judge Blois of Halifax, Dr. Dobson of Vancouver, Judge Choquette of Quebec have been invited to contribute papers.

The programme on Child Placing and Home Finding is one of the best ever offered in a Canadian Conference. Robert E. Mills, Director of the Toronto Children's Aid Society, F. J. Reynolds, Commissioner of Child Protection for Saskatchewan, K. C. McLeod, Superintendent of this work in Alberta, A. P. Paget, Director of Child Welfare for Manitoba, W. A. Weston, Director of the Winnipeg Children's Aid Society, R. W. Hopper, City Social Service Commissioner of Ottawa, Miss Leila O'Gorman, Catholic Welfare Bureau, Toronto, Miss J. Vera Moberly, Executive Secretary, Toronto Infants' Home, and Mrs. J. B. McGregor, at present on the headquarters staff of the Canadian Council on Child Welfare are all expected to participate.

Two evening sessions will be given to the findings of the British Columbia Child Welfare Survey, now being made by the Child Welfare Council.

The outstanding event of the Conference will be a Civic Banquet, tendered by the City of Vancouver, at which (Col.) Dr. Amyot, Deputy Minister of Health for Canada and the Hon. Irene Parlby, of Alberta are expected as guests of honour.

The annual business meeting of the Canadian Council on Child Welfare will be held at Grouse Mountain Châlet on Wednesday afternoon when the entire conference will be the guests of the municipality of North Vancouver.

The Canadian Association of Child Protection Officers will hold their Conference in Vancouver, in co-operation, their sessions being held on the 23rd, 24th and 25th of May. The Civic banquet and Thursday and Friday sessions on Child Care and Protection will be combined meetings of the two organizations.

SIXTEENTH ANNUAL MEETING
CANADIAN PUBLIC HEALTH ASSOCIATION

Meeting conjointly with the Canadian Medical Association, Ontario Medical Association and Canadian Tuberculosis Association

TORONTO, JUNE 14th, 15th, 16th, 1927

Preliminary Programme

All sessions will be held in Room 11, University College except where otherwise noted

Luncheon Meeting

Tuesday, June 14th, 12.30 p.m.

"THE COUNTY HEALTH UNITS AS OPERATING IN THE PROVINCE OF QUEBEC"—Dr. Alphonse Lessard, Director, Provincial Bureau of Health, Quebec.

Public Health Nursing Section

Tuesday, June 14th, 2.15 p.m., Room 11, University College.

Chairman, Miss Jean E. Browne.

(1) "THE TUBERCULOSIS HOSPITAL AND ITS FACILITIES FOR TEACHING PUBLIC HEALTH NURSING."—Miss E. McPherson Dickson, Lady Superintendent, Toronto Free Hospital, Weston.

Leader of Discussion, Miss Euna Kennedy, Montreal Anti-Tuberculosis and General Health League.

(2) "THE CONTRIBUTION OF THE JUNIOR RED CROSS TO PUBLIC HEALTH"—Miss Elsie Graves Benedict, Director Junior Section, League of Red Cross Societies, Paris.

Leader of Discussion—Miss Florence Emory, President, Registered Nurses' Association of Ontario.

(3) "HOUSING IN RELATION TO HEALTH"—Dr. R. St. John MacDonald, McGill University.

Leader of Discussion—Dr. F. S. Burke, Director of Medical Services, Dept. of Public Health, Toronto.

Tuesday, June 14th, 4.30 p.m. Meeting of the Executive Council of the Association—School of Hygiene Building, University of Toronto.

General Meeting of the Association

Tuesday, June 14th, 8.15 p.m. Physics Building.

Chairman—Dr. George D. Porter.

"FOOD AND FOOD VALUES"—Prof. Andrew Hunter, University of Toronto.

Conferring Honorary Life Membership,—

Dr. M. M. Seymour, Deputy Minister of Health, Saskatchewan;

Dr. C. J. O. Hastings, Medical Officer of Health, Toronto.

Report of Honorary Secretary.

Report of Honorary Treasurer.

Report of Committees.

Public Health Nursing Section

Wednesday June 15th, 9 a.m., Room 11, University College.

Chairman—Miss Jean E. Browne.

(1) "RECENT DEVELOPMENTS IN THE FIELD OF PREVENTIVE MEDICINE AND THEIR NURSING IMPLICATIONS".—Miss Edith Hurley, Professor of Public Health Nursing, University of Montreal.

(2) "THE OBJECTIVE IN THE TRAINING OF PUBLIC HEALTH NURSES."—Miss E. Kathleen Russell, Director, Dept. of Public Health Nursing, University of Toronto.

(3) "THE PLACE OF THE PUBLIC HEALTH NURSE IN EPIDEMIOLOGY."—Mabel F. Gray, Asst. Prof. of Nursing, University of B.C.

(4) "EVALUATION OF PUBLIC HEALTH NURSING."—Dr. A. B. Chandler, Medical Director, Child Welfare Assn., Montreal.

Joint Meeting with the Section of Preventive Medicine, Canadian Medical Association

Thursday, June 16th, 9.00 a.m., Room 11, University College.

Chairman—Dr. George D. Porter.

"TYPES OF CLINICAL REACTIONS FOLLOWING THE INJECTION OF BIOLOGICAL PRODUCTS."—Dr. A. H. W. Caulfeild, Toronto.

"SOME ASPECTS OF PHYSIOLOGICAL HYGIENE."—Dr. C. H. Best, Toronto.

"NEWER DEVELOPMENTS IN THE CONTROL OF NARCOTIC DRUGS."—Dr. J. A. Amyot, Ottawa, Ont.

"IMMUNIZATION AGAINST DIPHTHERIA."—Dr. F. Adams, Windsor, Ont.

"THE MEDICAL AND LEGAL ASPECTS OF DRUG ADDICTION."—Dr. A. R. Richards, Burwash, Ont.

"PERIODIC HEALTH EXAMINATION."—Dr. A. Grant Fleming, Montreal, Que.

Laboratory Section

Wednesday, June 15th, 10 a.m., Pathological Building, University of Toronto.

Demonstrations arranged jointly by the section of Pathology and Bacteriology, Canadian Medical Association and the Laboratory section of the Canadian Public Health Association.

News Notes

Statistics covering the Province of Ontario for February, 1927, show that smallpox was present in 27 localities during the month. Toronto, with 22 cases, reported the greatest number and 7 localities reported one case each.

In order to drive home, forcefully, to the layman, the devastating effects of an epidemic such as the recent outbreak of typhoid in Montreal, the "Star" of that city comments at length on some of its economic results.

On the basis of a collection of newspaper clippings from papers in the United States, the "Star" charges that a violent campaign against the city of Montreal has been carried on, with the typhoid epidemic as an excuse and an attempt to divert tourist traffic from the city, the real reason.

The scourge was depicted, says the "Star", as something akin to the ravages of the plague or black death. One imaginative journalist wrote of persons being stricken in the streets and overworked ambulances rushing night and day to join the waiting queues outside the hospitals.

"It will take some months to counteract these slanders," the article comments and then goes on to say, quite bluntly, that there would have been no epidemic and many lives would have been saved had the city authorities done their duty and enforced the milk by-law.

Press and public in Montreal as a whole, in fact, are frank in their attacks on the city council but, at the same time, united in praising the work of the medical officer and his assistants.

Health officials in Barrie, Ontario, commenced their activities in April without one case of contagious disease being reported as in existence in any part of the town.

Canadians are developing the habit of speaking very plainly where preventable disease and anything approaching official indifference are found side by side. Newspaper despatches reported 10 cases of typhoid in two weeks at Kingsville, Ontario, a town of 2,000 inhabitants. These were followed by a statement from the local mayor "discounting alarming reports about an epidemic."

"Even ten cases, in a place like Kingsville," tartly comments the *Toronto Star*, "warrant immediate and drastic action and call for municipal activity in ascertaining the cause."

Editorial

THE CANADIAN RED CROSS SOCIETY

That any average Canadian can be unfamiliar with the activities of the Canadian Red Cross is hardly possible. This is, perhaps, due to the excellence and tremendous scope of its war-time work—a triumph of organization which has rarely been equalled.

But this is a very opportune moment, in view of the Society's approaching campaign, to call attention, as well, to the effectiveness of its peace-time endeavours.

Probably the greatest single accomplishment of the Canadian Red Cross is the unvarying confidence which it has created in the public mind, from one end of the Dominion to the other, in its ability to cope with any serious emergency should one arise. In the event of a serious catastrophe, calling for immediate action, the man on the street, invariably and automatically, looks to the Red Cross. That he does so, with perfect confidence, is an unusual tribute to the value of the Society's past efforts—the greatest tribute, in fact, that they could receive.

This particular work has deeply impressed official bodies as well as Canadians as a whole. Arrangements with the Department of National Defence make it possible for certain supplies to be released, at once, to the Red Cross and for immediate action to be taken, in the district affected through the Society's Divisional Headquarters.

On a par with this service, is its pioneer work in the north. Canadians in the newly-settled or sparsely-populated sections of northern New Brunswick, Ontario, Manitoba, Saskatchewan and Alberta are unanimous in their expressions of gratitude to the Red Cross for its aid in fighting disease. Thirty-nine outpost hospitals, located at strategic points in these territories, have all been established within the past six years.

Throughout the rest of the Dominion, and in the North as well, the comparatively recent development of Junior Societies has resulted in the building up of a very powerful health movement among the members of the younger generation. Their membership now totals over 137,000 and, among the particular achievements of the Juniors, the creation of an understanding of the necessity of proper nutrition and adequate attention to dental health, is outstanding.

Immediately at the conclusion of the war, the Society concentrated on another task which it is still effectively carrying on—the task of co-

operating with governmental agencies in caring for the ex-soldier and securing adequate provision for those who are suffering as a result of service overseas.

It requires nothing more than a simple statement of the work being done to demonstrate clearly the value of these four phases of Red Cross activity and the advisability of making certain that the Society is given every opportunity to carry them on in the future as it has in the past.

THE CANADIAN MEDICAL ASSOCIATION

The meeting of the Canadian Medical Association this year will be of an outstanding character. It takes place in Toronto during the week of June 13th and will probably attract the greatest gathering of medical men which has ever come together in the history of the Dominion. The meeting will be in conjunction with the Ontario Medical Association, the Canadian Public Health Association, the Canadian Tuberculosis Association, the Canadian Society of Anaesthetists, the Canadian Radiological Society. The Canadian Social Hygiene Council is also planning its annual meeting for the same week. During the week distinguished authorities from both Europe and America will deliver addresses on all phases of medicine, public health and allied sciences.

The Canadian Medical Association has developed very rapidly during the last few years and the annual meetings have become events of the greatest significance. They are no longer a mere getting together of medical men for the exchange of ideas although this educational phase is of the greatest value to the physicians themselves. They are an outward and visible sign of new enthusiasm and ideals within the profession which are making in the long run for the building up of a healthier race of people. There are active signs within the organization of the development of a fine spirit which augurs well for the service which may be rendered to the public in future years. Every medical man should plan to attend the June meetings.

